

CABINET WITH SHELF SUPPORTED PLASTIC DRAWER

FIELD OF THE INVENTION

5 The present invention relates to a cabinet assembly including one or more lightweight plastic drawers.

BACKGROUND OF THE INVENTION

10 Over the last few years there have been developments with respect to manufacturing of cabinet assemblies with a plastic construction. These plastic cabinet assemblies are substantially less costly than the well known wooden and steel cabinets. However, the relatively new plastic designs in cabinets have a much
15 less formal appearance and are not nearly as sturdy in construction as the older wooden and steel cabinets.

Another drawback associated with known plastic cabinets is that the plastic drawers often have a
20 tendency to jamb in their supporting plastic housings. This is because in most known plastic cabinets the drawers have sideways protruding top edges which fit into tracks to opposite sides of the housing. There must be relatively tight tolerance between the fit of the drawer
25 edges with the tracks in order ensure that the drawers do not inadvertently release from the housing. As a result of the required tight tolerance the drawer can often get stuck when pulling it out or pushing it in to the housing.

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SUMMARY OF THE PRESENT INVENTION

The present invention comprises a cabinet assembly including a lightweight plastic drawer and a housing having an internal shelf extending from the front towards
35 the back and side to side of the housing. The drawer is slideably seated on the shelf. The shelf provides all

vertical support for the drawer within the housing. As
such, the drawer does not have to be tightly fitted with
the housing in order to maintain a non-releasing slide
contact with the housing. The drawer therefore slides
5 easily in and out of the housing.

As a further preferred feature of the invention
the drawer has a front face with a finger grip pull
molded into the front face of the drawer. This
10 eliminates the need for a separate snap on handle to be
added to the drawer.

The finger grip pull can be molded in a manner to
give the front face of the drawer a much more high-end
15 professional appearance.

According to an aspect of the invention, only the
drawer itself has a plastic construction while the
housing is made from a different material. This material
20 may have a higher grade appearance than the plastic of
the drawer and preferably is a much heavier material than
the plastic drawer material. This further adds to the
more formal appearance of the cabinet assembly and
further adds to the overall stability of the assembly.

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BRIEF DESCRIPTION OF THE DRAWINGS

The above as well as other advantages and features
of the present invention will be described in greater
detail according to the preferred embodiments of the
30 present invention in which;

Figure 1 is a perspective view of a cabinet
assembly according to a preferred embodiment of the
present invention;

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Figure 2 is a further perspective view of the

cabinet assembly of Figure 1 with one of the drawers pulled partially out of the housing;

Figure 2a is a sectional view along the lines 2a-
5 2a of Figure 2;

Figure 3 is a sectional view through the cabinet assembly of Figure 1 showing the top drawer in an outwardly pulled position and the second top drawer in a
10 fully housed position;

Figure 4 is a rear perspective view of the cabinet assembly of Figure 1; and

15 Figure 5 is a rear perspective view of a cabinet assembly according to a further preferred feature of the present invention.

**DETAILED DESCRIPTION ACCORDING TO THE PREFERRED
20 EMBODIMENTS OF THE PRESENT INVENTION IN WHICH:**

Figure 1 shows a cabinet assembly generally indicated at 1. This cabinet assembly includes a plurality of lightweight plastic drawers 3 supported by a housing 5. in this preferred embodiment housing 5 and
25 specifically the material used to make housing 5 is substantially heavier than the lightweight plastic construction of drawers 3.

Figure 3 of the drawings shows one of the key
30 features of the present invention. In particular, Figure 3 shows that cabinet 5 includes a plurality of internal horizontal shelves 11 which are supported from opposite sides of the cabinet. In the embodiment shown these shelves extend across a majority of the front to back
35 depth of the cabinet. The shelves as shown do not extend to the back wall 12 of the cabinet. However, even when

the drawers are in their fully closed position as represented by the second to top drawer in Figure 3 they do not tip off of shelves 11. This is because they are sandwiched between the supporting shelf on which they are seated and a corresponding upper shelf for seating a higher drawer. In the case of the top drawer it is sandwiched between its supporting shelf 11 and the top wall 9 of the housing.

10 A further aspect of the preferred feature shown in Figure 3 is that the bottom wall 22 of the drawer is clear of any downwardly extending catches or the like allowing the drawer to freely slide along shelf 11.

15 Drawers 3 are extremely easy to push into their closed positions and then pull out to the open position as represented by the top drawer in Figure 3. This figure also shows that the drawer without pulling completely out of the housing opens so far that the full
20 open top of the drawer is accessible.

 The drawer is prevented from being completely pulled out of the housing due to the provision of a tab or peg 41 which extends through the open top of each
25 drawer. In the case of the top drawer peg 41 is embedded in the top wall 9. In the case of all drawers below the top drawer the peg 41 is embedded into the shelf 11 above the drawer. As will be seen with respect to the top drawer shown in Figure 3 the peg 41 interferes with the
30 back wall 23 of the drawer when the drawer is pulled open. This prevents the drawer from being completely pulled out of the housing. As can also be seen in Figure 3, the upper edge of back wall 23 of the drawer includes a U-shaped return 23a. This U-shaped return extends
35 completely around the upper edge of the drawer and has particular importance in reinforcing the back wall where

it impacts with peg 41. This adds further to resistance to the drawer pulling out of the housing.

Figure 5 of the drawings shows another embodiment of the invention in which housing 5 is replaced with a housing 5a. Housing 5a is substantially identical to housing 5 with the exception that it does not include a housing back wall. As can be seen in Figure 5 the rear of housing 5a is completely open.

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The same drawers 3 are fitted between the sidewalls 7 of housing 5a. The drawers are slideable relative to housing 5a in a manner identical to that already described.

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When working with housing 5a each of the pegs 41 again prevents the drawers from pulling forwardly out of the housing. In addition the pegs prevent each of the drawers from being pushed rearwardly out of the housing. This feature can once again be well seen with respect to Figure 3 which shows that peg 41 in the second to top drawer interferes with the front wall generally indicated at 25 of drawer 3 when the drawer is pushed completely into the housing.

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As will be appreciated from all the description above, the pegs 41 determine the full outward pull of the drawers and also determine the full inward pushing of the drawers.

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In order to fit the drawers in to the housing the drawer are fitted without pegs 41 are removed from the housing. After the rear wall of each of the drawers has moved rearwardly in the housing beyond the peg insertion position the peg is simply pushed up into a pre-made hole in the housing for receiving the peg. The drawers are

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now slideably trapped in the housing.

In order to completely remove any one of the drawers it is a simple matter of gaining access to the appropriate peg for pulling it out of the housing and then removing the drawer.

Slideability of the drawers relative to the housing is greatly enhanced for a number reasons. The drawers do not have to tightly fit with tracks or guides and therefore have a somewhat loose fit in the housing. the fit is not so loose as to be sloppy. It is simply loose enough to prevent jamming of the drawer with the housing. Sole vertical support for each drawer is provided by its under shelf 11. The drawers cannot fall off of the under shelf and therefore do not need to be tightly fitted with guide tracks or the like along their upper edges.

There is an extremely low friction contact between each of the drawers and its respective support shelf. This low friction contact occurs firstly because of the slippery nature of the plastic used in forming the drawers. In addition, each of the drawers is provided on its bottom wall 22 with a plurality of spaced apart downwardly extending runners 22a as seen in Figure 2a of the drawings. The drawer as shown in the preferred embodiments has a one-piece molded construction and the runners 22a are part of this molded construction. The runners provide localized glide surfaces for the drawer to run along the drawer's flat support shelf.

A further feature which makes the drawers extremely easy to slide relative to the housing is the substantial weight difference between the drawers and the housing. In the preferred embodiment as described above

the drawers are made from the lightweight plastic material while the housing is made from a heavier material and preferably a non-plastic material. In the embodiment as shown, housing 5 is made from a wooden material. This wooded material is much heavier than the lightweight plastic used in forming the drawers and therefore makes the housing extremely stable. The drawers easily pull out of the housing with essentially no movement of the housing itself.

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The drawers formed from the lightweight plastic material are noticeably different in appearance from the housing. This makes it very easy to distinguish what constitutes the drawer and what constitutes the housing when grabbing each one of the drawers to pull it outwardly. Furthermore, the wooden construction of the housing gives the overall cabinet assembly a much more high end appearance than for example a prior art cabinet assembly in which the housing is made from the same plastic material as the drawer.

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Other materials can also be used in constructing housing 5. For example, a heavier housing can be made using steel or even an aluminum construction. When working with the wood construction it is preferably provided with some type of a wood grain exterior. A steel or aluminum material can be given a brushed or other decorative exterior appearance. All of these add to the higher end nature of the cabinet assembly.

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As a further feature of the invention, adding both to the ruggedness and the esthetic appeal is the method used to form the front wall 25 of each of the drawers 3. This can best be seen having reference to the closed drawer shown in Figure 3 of the drawings.

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More specifically, the front wall 25 of each of the drawers 3 is actually the front face of the drawer. This face is formed by a first flat major face region 27 which extends downwardly over most of the height of the front face of the drawer. The rest of the front face of the drawer consists of a much more limited second lower face region 29. Face region 29 is recessed rearwardly of the upper face region 27. A short horizontal step 31 extends between face regions 27 and 29. Face region 27 includes a lower lip 33 which drops downwardly past step 31. This produces a bottom opening recess 35 between face regions 27 and 29. As will be best seen having reference to Figure 2 of the drawings recess 35 which provides an integral finger grip pull extends completely across the front of the drawer.

As will be appreciated in looking at Figure 3 the front face features of drawer 3 are all part of the one-piece molded construction of the drawer. This produces the benefit that without a complete breakage of the entire front wall of the drawer the finger grip pull always remains intact. It cannot be pulled off of the drawer. In addition, the front face of the door has a very neat finished appearance adding once again to the esthetic appeal of the cabinet assembly.

Although various preferred embodiments of the present invention have been described in detail, it will be appreciated by those skilled in the art that variations may be made without departing from the spirit of the invention or the scope of the appended claims.